

GROWTH PROSPECTS FOR GHANA'S HORTICULTURAL EXPORTS

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Abstract

The objective of this study was to evaluate the potential growth of Ghana's agricultural sector and in particular the horticultural sub-sector for sustained long-term economic growth. This study focussed primarily on pineapples, Asian-type vegetables, and yams because of their promising potential for agricultural diversification and export growth.

The paper first assessed the importance of the horticultural sub-sector in the Ghanaian economy. Then, the major participants in the sub-sector were identified followed by the financial arrangements that smooth market transactions in the sub-sector, the marketing structure that characterizes the horticultural sub-sector, export finance systems, and, lastly, the potential and constraints faced by the sub-sector.

The conclusions of the study point to Ghana's impressive economic performance still being dependent on a continued and significant increase in agricultural exports. While enormous progress has been made in developing the non-traditional agricultural sector with pineapple as the leading crop, many constraints (financial as well as structural) still need to be removed for the sector to expand in a sustained fashion.

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I. Introduction

When Ghana became independent in 1957, it's economy was one of the strongest in Sub-Saharan Africa. Up to the early 1960's, Ghana had one of the highest levels of income, and one of the best social and economic infrastructures in Africa. Then the economy experienced a prolonged decline that lasted through the 1960's and the 1970's due to several factors including inappropriate development policies and political instability. By the end of 1981, when the present government assumed power, the economy had almost collapsed. Ending the economic and social crisis was one of the main concerns of the government as it almost immediately engaged in a structural adjustment program.

Ghana began its economic recovery program (ERP) in 1983 and the country's performance has been impressive. From the period 1984-1991, real GDP has averaged 5 percent annual growth, with per capita real growth of about 2 percent. Services, and industry have shown rapid and consistent growth. In fact, much of the growth came from the service sector which accounted for 77 percent, and industry contributed 18 percent to overall growth. Agricultural growth has, however, been rather disappointing contributing only 5 percent to total growth (World Resources Institute, 1994). Ghana's economy is based mainly on agriculture which represented 51 percent of GDP in 1986 and 42 percent in 1992. The industrial sector accounted for 15 percent and

services for 43 percent (table 1). Given the relative importance of agriculture in the Ghanaian economy, strong agricultural growth is necessary for a significant positive impact on the rest of the economy.

A. Objective of the Study

The objective of this study is to evaluate the potential growth of Ghana's agricultural sector for sustained long-term economic growth. This study will specifically document and evaluate the current and potential role and impact of the horticultural sub-sector as the expansion of non-traditional exports (NTEs) is promoted to relieve foreign exchange scarcity and develop employment of resources in the agricultural sector. Horticultural crops for this study are defined as all fruits and vegetables as well as root crops, flowers, and ornamental crops. Pineapples, Asian-type vegetables, and yams will receive particular attention.

The paper will first assess the importance of the horticultural sub-sector in the Ghanaian economy. Then, the major participants in the sub-sector will be identified followed by the financial arrangements that smooth market transactions in the sub-sector, the marketing structure that characterizes the horticultural sub-sector, export finance systems, and, lastly, the potential and constraints faced by the sub-sector. Relevant conclusions and recommendations will be drawn out in the final section.

B. Brief Outline of Methodology

This study will follow the modified sub-sector framework established by researchers at the Ohio State University.¹ The sub-sector approach “considers the flow of commodities in a specific market through different channels involving heterogenous participants under a competitive institutional and regulatory environment” (Nagarajan and Meyer, 1993). Under the modified sub-sector approach, financial and informational markets are specifically included when considering the physical flow of commodities in input or output markets. The marketing arrangements and contracts, the nature of firms and coordinating mechanisms chosen to facilitate the flow of commodities are all explained using transaction cost theory which states that asset specificity, uncertainty, and access to credit are the major determinants of institutional arrangements in marketing. The information contained in this study was gathered during field research in Ghana from February through April 1994, primarily through interviews of producers, exporters, and other marketing agents that make up the horticultural sub-sector agents.

II. Importance of the Horticultural Sub-Sector in the Economy

For a long period of time, Ghana relied on its traditional exports of cocoa, timber, and gold to earn much needed foreign exchange. In its efforts to diversify its agricultural sector, Ghana has engaged for the past 10 years in the promotion of non-traditional agricultural exports (NTAEs) and in particular horticultural products. In terms of foreign trade, Ghana's export trade is confined mainly to Europe. About 85 percent of Ghana's export is carried out with the

¹ Nagarajan, Geetha, and Richard L. Meyer, “A Conceptual Framework to Study Agri-Business Sub-Sectors in Developing Countries,” November 1993.

countries in the European Economic Community (EEC). Only a small portion of trade occurs with regional partners such as the members of the Economic Community of the West African States (ECOWAS). The United Kingdom (U.K.) was formerly Ghana's biggest trading partner, but the U.K. has been losing ground in favor of other EEC and European countries such as Belgium, France, Germany, Italy, and Switzerland due to a period of prolonged depressed prices in the U.K. market for horticultural products.

Exports of non-traditional agricultural products represented 34 percent of all NTEs in 1993 and earned more than US\$13 million in revenues. Horticultural products accounted for 36 percent of the value of all NTAEs with close to US\$5 million foreign exchange earnings (table 2). The horticultural sub-sector has been dominated by pineapples which accounted for 25 percent of total non-traditional agricultural exports (table 2). Other horticultural exports have been steadily growing and in 1993, yams represented 8 percent of NTAEs. Assorted vegetables, including Asian vegetables such as Okras, aubergines, courgettes etc..., while still negligible (1 percent of NTAEs), offer good prospects for future growth.

III. Major Participants in the Sub-Sector

A. Producers

In the Ghanaian horticultural sub-sector, producers are large farms or plantations on the one hand, and small outgrowers on the other hand. In the case of pineapples, a handful of large producers dominate the market. According to the Ghana Export Promotion Council (GEPC), the six largest producers were responsible for marketing 4,502 tons of the 8,453 tons of pineapples exported in 1993. This accounted for 53 percent of all quantities exported for a value of close to

US\$ 2 million i.e. 57 percent of the value of all pineapple exports. It should be pointed out that the these large exporters are also producers who regularly buy from outgrowers to supplement their own production. This is an important element behind their steadily increasing export volumes over recent years since there has not been much expansion of their own farms.

B. Consumers

The bulk of Ghanaian horticultural crops are produced for export i.e. intended largely for European consumers. Only products that do not meet the qualifications for export are sold in the domestic market to wholesale agents who deliver to retail market vendors and to local hotels and restaurants as well as fruit juice companies (e.g., Astek fruit processing in Accra).

Pineapples remain Ghana's most important horticultural export with a total value of exports in 1993, reaching US\$3,472,600 i.e. 70 percent of the value of all horticultural products and 25 percent of the value of all non-traditional agricultural exports (table 2). Most of Ghana's pineapples were shipped to the EEC countries (85 percent) with Belgium (48%), Italy (12%), Germany (9.5%), France (9%), and The United Kingdom (4%) as principal trade partners for pineapples in 1993. The rest went to Switzerland (14%), Lebanon and Poland (table 3). Trade with the United Kingdom has diminished considerably, slipping from 76 percent of all pineapple exported in 1986, to 37 percent in 1988 to 4 percent in 1993 (table 3). However, trade with Italy has been growing rapidly, from zero in 1986 and 1988 to close to 12 percent of pineapple exports by Ghana in 1993 (table 3). One of the principal reasons behind the market shift lies, on the one hand, are depressed prices for horticultural products and especially pineapples in the U.K. market and, on the other hand, a rapidly growing taste for fresh pineapples in the Italian market.

For yams, the principal consumers outside of the Ghanaian local population are the African communities in Europe and North America. More than 71 percent of yam exports go to the EEC with a large part (62%) going to the United Kingdom (GEPC data). Other developed countries include the United States (22%) and Canada (4%) servicing the ethnic markets in these countries as well. Yams, a much less perishable crop, are transported by sea to European and North-American markets from the seaports of Tema and Takoradi. In 1993, Ghana exported more than US\$1 million worth of yams, i.e., 23 percent of all horticultural products.

Vegetable exports in Ghana are still new and growing, representing less than 1 percent of the value of all NTAEs. Vegetables such as okra, garden eggs, and beans are exported to the United Kingdom and targeted to the Indian community in that country. There is a great potential for an increase in Ghana's vegetable exports as the producer/exporters are still unable to meet the growing European demand for these Asian-type vegetables.

C. Market Agents

Market agents usually fall into any one of the following categories: wholesalers, truckers, commission agents for forward contracting, and retail traders. For pineapples and Asian-type vegetables, the producer in Ghana is usually the exporter. No middlemen were used along the marketing channel. The scenario is somewhat different for yams. Puna yam is the variety most often exported and is grown primarily in Northern Ghana as well as in the Kumasi region i.e., Central Ghana. At present yams are distributed from the farming areas to the yam trading centers in the North. Middlemen representing farmers are posted in the trading centers and take charge of marketing the farmers' yams. Wholesalers, most of whom are also truck owners, buy yams

from these middlemen and transport them to the major markets to be resold to exporters or other retailers. Independent women wholesalers from Accra, Kumasi, Takoradi, and Tema also send their business partners to collect yams from specific farmers to whom cash advances have been made earlier in the season.

IV. Financial Arrangements in the Horticultural Business

A. Self-Finance

Self-finance predominates in the horticultural business and appears to be by far the most common form of starting up a new venture. Retained earnings from a previous business activity, or own savings remains the norm. Cross-subsidization from other business activities is also common.

B. Bank Finance

Bank loans are rarely available to finance a new horticultural business due to the high risks involved in the sub-sector. However, commercial banks usually grant overdraft facilities to their horticultural customers in the export business particularly if they are involved in other businesses as well. Also well established businesses with a solid reputation may be able to get bank loans for investment and expansion.

C. Other Financial Arrangements

In the absence of bank finance, businesses can draw upon other forms of finance to secure start-up capital or investment funds. Venture capitalists usually supply capital to firms in high

risk situations such as launching a business or when the firm is denied conventional financing. Also, a conglomerate business structure will typically have retained earnings to finance new risky business such as horticultural export activity. A conglomerate is typically a large corporation formed through the merger of a number of companies in unrelated, widely diversified activities. Foreign investors are the most likely source of venture capital in Ghana and seem to prefer joint venture businesses as in the case of one pineapple producer/exporter in Ghana linked to a foreign European air cargo operation. One Indian vegetable exporter can be considered a conglomerate operation made up of a vegetable farm, a photographic laboratory and several restaurants in Accra and Europe.

D. Supplier/Exporter Credit

Short term supplier credit exists all along the marketing chain for all horticultural products in Ghana. This credit ranges from a few weeks to two months. Deferred payments to European importers was very common in the pineapple, yam, and vegetable trade. Implicit credit to overseas importers is very common. In these cases, the exporter does not receive payment from the European importer for his/her goods for periods from 15 to 60 days. Sale by consignment is also practiced in a few cases.

E. Overseas Banking

Due to the nature of their business, exporters are in constant need of foreign exchange. Because the local banking system remains inadequate, unwilling, or too expensive to meet their needs, exporters most often turn to foreign banks. Overseas banking especially in the European

continent usually facilitates letters of credit with cheaper terms and conditions than those in the domestic banking industry. The higher cost of credit in Ghana's domestic financial markets in large part reflects the impact of financial market liberalization raising interest rates and the crowding out of loans by the growing supply of remunerative risk free treasury bills snapped up by commercial banks to fill out their asset portfolios.

V. Marketing Structure

A. Transaction Cost Dimensions

The competitive structure of markets is determined by technical, institutional, as well as social, cultural, and historical factors (Jaffee, 1992). According to transaction cost economics, asset specification and uncertainty are the principal factors that shape marketing arrangements in a specific sub-sector. Marketing structure is, thus, dictated by the nature of the product as well as the specificity of inputs required in production as is set forth in table 4. More precisely, with a high level of asset specificity and uncertainty, vertical integration will prevail over spot market exchange and long-term contracts as the mode of marketing arrangements. The continuum of marketing arrangements available to the firm or exporter for crop procurement goes from spot market purchases at one hand to vertical integration at the other hand. Between these two extremes are long-term contracts or market reciprocity agreements which are “informal, yet highly personalized repeat trading ties” (Jaffee, 1992). These intermediate contractual arrangements include forward market contracts and interlinked market contracts. When asset specificity is medium or low, long-term contracts will provide buyers and sellers greater flexibility of action.

In the case of both low asset specificity and uncertainty, spot market purchases are most efficient market arrangements (table 4).

B. The Pineapple Case

Fresh horticultural products are in general perishable commodities and that renders spot market purchases highly risky for exporters. Asset specificity in pineapple production falls into the “moderate” category as defined by the transaction cost framework in table 4. This is justified by the medium degree of specialization of material production inputs and technical knowledge required. However, pineapples have a somewhat long production cycle of twelve months from the time the sucker is planted to the first harvest. Uncertainty is rated “medium” because pineapples can keep their freshness and quality for at least two weeks after harvest. Export quality standards, although high, are set within a specified range which allows a certain flexibility. Finally, harvests and deliveries must be timed to meet weekly rather than daily air-freight schedules. Thus, medium asset specificity and moderate uncertainty would likely dictate other contractual arrangements than vertical integration as the most efficient mode of organization for the procurement of pineapples for export. In fact, the export of pineapples in Ghana, as expected, is dominated by long-term contract arrangements. Most exporters are growers themselves but still engage in contracts with small outgrowers, providing suckers, controlling pesticide applications, plantings and harvesting to meet export requirements. Thus, the exporter gains market security by tying the outgrower to himself by contract no matter how informal it may sometimes appear in the Ghanaian environment.

C. Vertical Integration

The motivations of agribusinesses to integrate vertically, i.e. owning two or more levels of production or marketing, usually involve some mix of seeking market power and seeking savings through efficiencies. Technical factors alone may play a decisive role in the level of market concentration. Thus, when significant economies of scale are to be gained in the marketing of the product, when technical, financial, and managerial barriers to entry exist, when the level of development of transport and communication infrastructure is inadequate, there is a tendency towards vertical integration. Recent findings in transaction costs economics point also highlight the linkage between vertical coordination and financial markets (Barry et al, 1992). In fact, the choice of marketing arrangements dictated by the asset specificity and uncertainty in a particular sub-sector will ultimately affect access to financial markets. More specifically, the stability associated with long-term contracts and vertical integration may be preferred by lenders over spot market arrangements.

These factors help explain the scenario with pineapples in Ghana where one case of vertical integration has occurred as a response to technical constraints and ultimately a possible answer to financial constraints. The exporter is also a producer, has his own trucks to transport his produce, has his own cooling equipment and has gone into the shipping business by owning a cargo company to air-freight his pineapples. Another exporter has gone into a joint business with a European air cargo company to circumvent the capacity constraints that exist in dealing with commercial airlines.

D. Asian Vegetables and Yams

Producers of Asian vegetables are also exporters and rely on commercial airlines to ship their harvest to European countries since their output is currently too small to draw in special air cargo facilitator. No product procurement contract arrangements exist nor are they necessary because each producer is also an exporter. The specialized nature of growing these vegetables creates a strong comparative advantage for Asian (mainly Indian) producers in Ghana who draw on a long ethnic history of growing these crops. Also, these producers are well positioned to establish connections to their ethnic markets in Europe. Hence both product and market uncertainties are reduced through the emerge of ethnic-specific producers.

Yam exporters, on the other hand, rely on farmers and middlemen to secure their produce that is then shipped by sea. Exporters assist farmers, through middlemen, by supplying input and cash credit. The yam sub-sector in Ghana is characterized by long-term contracts between buyers and sellers as farmers find themselves incapable of breaking the debt cycle that links them to their middlemen. In any case, long-term contracts, appear to be the appropriate marketing arrangement for a product like yams that suffers low uncertainty (yams have a shelf life of several months) and low asset specificity due to low-tech production technology and low sea-freight costs.

VI. Export Finance Systems

A. Export Promotion Policies

Under the new Ghana Export Promotion Council (GEPC) plan, NTEs are projected to grow 29 percent per year, reaching a level of US\$335 million by the year 1995. This would imply an increase in the NTE sector from 5 to 15 percent of total exports with special emphasis

on the development and expansion of non-traditional agricultural exports, mainly horticultural products. To reach this ambitious objective, the Government of Ghana has offered the following fiscal incentives to exporters:

1. Corporate tax rebate scheme: All firms engaged in exports are given an income tax rebate. Agricultural firms exporting up to 15 percent of their production are eligible for a 40 percent tax rebate. If the quantity exported is 20 percent, the rebate increases to 60 percent, and a 75 percent rebate is given to firms exporting more than a quarter of their production. This rebate law applies unfortunately only to exporter/producers rather than to pure exporters. Allowing the law to include marketing firms could well induce the development of firms that specialize in marketing services necessary for the expansion of the sector.
2. Customs duty drawback/duty exemption policy: Under the New Investment Code, all export firms are allowed to import machinery and material duty free. However, at present the policy is so cumbersome that it has attracted only a few exporters due to high transaction costs (mainly administrative costs).
3. Profit retention scheme: This allows exporters to keep 100 percent of their foreign exchange earnings in hard currency. However, the exporter has no freedom to choose where to exchange these earnings. He/She must go through the formal banking system that usually offers a lower inter-bank market rate for this kind of operation.
4. No export taxes are levied on any exporter;
5. No export license is required to export non-traditional goods out of Ghana;

6. A credit guarantee scheme; a refinancing facility; a credit insurance program; and a supplier's credit scheme are to be enacted to give exporters more financial alternatives.

B. Export Finance

The demand for export finance that currently exists in Ghana is still unmet because of the natural reluctance of banks to lend to agricultural export firms judged too risky for term loans. Also, no special insurance vehicle yet exists for perishables such as fresh fruits or vegetables and the costs for conventional shipping insurance remain prohibitive. In short, the limited supply of export finance constrains the expansion of new and/or emerging but still unestablished exporters.

VII. Potential and Constraints Faced by Producers of Horticultural Exports

A. Potential for Ghana's Horticultural Export Growth

There are good reasons to be optimistic about the expansion of Ghana's agricultural exports towards Europe. For one, the demand for horticultural products is still growing in Europe and the rest of the developed world (table 5). Europe in general and the EEC countries in particular are the most important markets for fresh fruits and vegetables from Africa, Caribbean, Pacific (ACP) countries and particularly sub-Saharan African countries. In 1992, the EEC countries imported a total of 302,230 tons of fresh fruits and vegetables from ACP countries. That number represents more than a 6 percent increase over 284,030 tons of total fresh fruits and vegetables imported just a year before in 1991 (COLEACP Bulletin, 1994). Secondly, the EEC plans to lower its custom duties by 20 percent over the next six years. This should ease the access of

products from low income countries including Ghana, into the European Community. In 1991 and 1992, Ghana ranked fifth among the first ten ACP exporters of fresh fruits and vegetables to EEC countries. That favorable ranking was mainly due to pineapples which remains Ghana's most important horticultural export with 7,126 tons exported to Europe in 1992. Côte d'Ivoire ranked first with 132,062 tons exported (table 5). It is worth noting that France is a very important European partner for all ACP countries exporting fruits and vegetables to the EEC. In fact, France remained first in imports of several fruits and vegetables in 1992 including fresh beans (15,527 tons), avocados (62,412 tons), pineapples (71,468 tons), and 3,343 tons of limes exported that year (table 6).

B. Constraints Faced by the Horticultural Sub-Sector in Ghana

Although reforms in the agricultural sector in Ghana started relatively late (i.e. 1988), about five years after the first structural reforms were launched, considerable progress has been made, however, farmers and agribusinesses are still confronted with many constraints that limit Ghana's export potential. A number of these are listed in table 7 and discussed below:

1. Infrastructure constraints

The production, transport, and shipping infrastructure in Ghana has undergone major upgrading but still remains inadequate. Rural feeder roads which are the critical links with external markets are still not free of many potholes. Marketing facilities and physical structures such as warehouses, handling facilities, and cold storage units are underdeveloped or do not exist. Large producers are driven into providing their own cold storage facilities.

2. Financial constraints

The capacity of Ghanaian exporters to obtain financing is severely limited by the absence of export finance. Commercial banks usually avoid any long-term loans especially if no rediscount facility is available. The problems in the Ghanaian horticultural sub-sector are compounded by a lack of export insurance, or any pre-shipment credit for exporters to minimize their risks. Thus, financial constraints operate in addition to the other problems Ghanaian horticultural exporters are facing and need to be addressed in an effort to efficiently promote export expansion. However, these financial constraints could be relaxed once many of the risks reducing infrastructure investments have been carried out.

3. Capacity and technical constraints

The capacity of the export sector to develop and expand is constrained by the lack of access to market information and knowledge, a lack of a strong marketing support services, and a sector characterized by poor technical skills in production except for the largest farmers. In Ghana, except for the largest farmers, exporters do not have secure knowledge about where to send their products or where to obtain such information despite the existence of the Ghana export promotion council (GEPC) the organization in charge of disseminating market information. Technical skills are also needed to meet international quality standards or to simply fill foreign orders. Small producers for these reasons must produce through outgrower contracts to larger producers who have greater access to market information.

Most of Ghana's pineapples (95 percent) are airfreighted despite the proximity of the two principal harbors of Tema and Takoradi, both relatively close to the main pineapple growing areas. The constraints faced by Ghana in its desire to complement airfreight exports with seafreight

ht are not only technical but financial as well. Ghana needs to increase its scale volume of pineapple exports to be able to develop a seafreight trade of pineapples with Europe and take advantage of the new trends in the EEC retail market.

VIII. Conclusions and Recommendations

Ghana's impressive economic performance is still dependent on a continued and significant increase in agricultural exports. While enormous progress has been made in developing the non-traditional agricultural sector with pineapple as the leading crop, many constraints still need to be removed for the sector to expand in a sustained fashion. Ultimately, the prospects for agricultural exports and especially for the horticultural sub-sector in Ghana remain dependent on continued policy reforms promoting export growth, an increase in the European demand for Ghanaian horticultural products, and Ghana's ability to meet competition in the international markets by offering these products at reasonable prices. Only by successfully meeting this competition, will Ghana improve its market access and integration into the world market.

Table 1. Selected Indicators of Growth and Change in the Ghanaian Economy

		Percent Share in GDP			Average Annual Growth rate	
		1986	1988	1992	1981-86	1987-91
1.	Ag. Sector	50.7	47.4	42.5	-0.2	2.0
2.	Industry	13.3	14.4	14.6	-1.8	6.4
	Manufacturing	9.0	9.3	8.7	-0.4	4.5
3.	Services	36.0	38.2	43.0	NA	NA
Total		100	100	100	NA	NA

Sources: Ghana Statistical Service & The World bank.

Table 2. Growth and Change in Agricultural Export: 1986-1993

	1986			1988			1993		
	Value in	% of	% of Ag.	Value in	% of	% of Ag.	Value in	% of	% of Ag.
	1000 US\$	Total NTEs ¹	Export	1000 US\$	Total NTEs	Export	1000 US\$	Total NTEs	Export
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Total NTAEs ²	17,816.85	74.98	100	27,059.69	63.90	100	13,702.87	33.71	100
Horticulture	549.51	2.31	3.08	1,628.17	3.84	6.02	4,923.55	12.11	35.93
Pineapple	433.43	1.82	2.43	1,408.37	3.33	5.20	3,472.60	8.54	25.34
Yam ³	84.32	0.35	0.47	183.27	0.43	0.68	1,135.65	2.79	8.29
Assorted Vegetables	0	0	0	0	0	0	162.72	0.40	1.19

Note 1: NTEs = Non-Traditional Exports (include agric. products)

2: NTAEs = Non-Traditional Agricultural Exports

3: Figures for 1993 include cocoyam (taro)

Source: Ghana Export Promotion Council (GEPC)

Table 3. Pineapple Exports of Ghana into Europe and the Rest of the World

PINEAPPLES							
		1986		1988		1993	
		Value in US\$		Value in 1000 US\$		Value in 1000 US\$	
		Percent		Percent		Percent	
		(1)	(2)	(1)	(2)	(1)	(2)
A.	EEC countries	331.09	76.49	744.50	52.86	2,941.55	84.71
	1. Belgium	-	-	104.09	7.39	1,682.16	48.44
	2. Denmark	-	-	20.38	1.45	54.37	1.57
	3. France	-	-	1.73	0.12	300.74	8.66
	4. Germany (FR)	0.50	0.12	35.54	2.52	330.81	9.53
	5. Italy	-	-	-	-	415.06	11.95
	6. Netherlands	1.58	0.36	53.83	3.82	1.27	0.04
	7. Spain	-	-	-	-	3.60	0.10
	8. United Kingdom	321.51	76.02	528.94	37.56	153.54	4.42
B.	Other Developed Countries	101.78	23.48	483.53	34.33	484.49	13.95
	1. Switzerland	101.78	23.48	439.39	31.20	484.49	13.95
	2. Finland	-	-	35.72	2.54	-	-
	3. Sweden	-	-	3.60	0.26	-	-
	4. Norway	-	-	1.73	0.12	-	-
	5. USA	-	-	3.09	0.22	-	-
C.	Others	0.56	0.13	180.34	12.81	46.55	1.34
Total		433.43	100	1,408.37	100	3,472.60	100

Source: Ghana Export Promotion Council

Table 4. Characteristics of Asset Specificity and Uncertainty, and Choice of Appropriate Marketing Arrangements.

	Marketing Arrangements			
	Vertical Integration	Medium to Long-term Contracts	Short-term Contracts	Spot Markets
Asset Specificity				
Production Cycle	Long	Long to Medium	Short	Short to Medium
Economies of Scale	High	Medium	High to Medium	Low
Input Specification	Medium	Low	Low	Low
Uncertainty				
Perishability	Low	Low	Medium	Medium
Quality Specification	High	Medium to Low	High	Medium
Timing Specification	Medium	Medium to Low	Medium	Medium

Source: Jaffee, 1992.

Table 5. Imports of Fresh Fruits and Vegetables from the First Ten Most Important ACP Countries in 1992 (in tons)

ACP Country	Fruits and Vegetables										
	Beans	Aubergine	Sweet pepper	Avocado	Melon	Strawberry	Pineapple	Mango	Papaya	Chilli	Citrus
Côte d'Ivoire	5	1	-	64	17	-	132,062	2,566	208	-	12
Dominican Republic	238	4	-	87	69	-	28,891	47	2	3	66
Kenya	14,414	87	1	6,614	7	196	156	448	1	462	40
Swaziland	3	-	-	356	1	-	5	37	-	-	18,693
Jamaica	-	-	-	46	-	-	-	966	936	2	8,313
Ghana	4	4	-	3	-	-	7,126	76	11	153	3
Zimbabwe	353	-	2	-	37	6	7	18	-	31	6,406
Madagascar	60	-	-	40	-	-	8	1	-	35	-
Burkina Faso	3,323	-	-	-	-	-	4	1,232	-	-	-
Senegal	2,780	-	14	20	689	-	-	7	1	164	11
Total	21,180	96	17	7,230	820	202	168,259	5,398	1,159	850	33,544

Source: COLEACP Statistics

Table 6. A Profile on French Imports (in tons) of Selected Fresh Fruits and Vegetables from around the World Including African Countries--1988 to 1992.

Produce	1988	1989	1990	1991	1992
French Beans	11,925	12,686	15,170	14,588	15,527
Asparagus	209	133	409	415	542
Melons	2,708	4,194	6,090	8,606	8,714
Strawberries	3,490	3,079	3,185	3,776	3,192
Avocados	36,710	52,651	61,332	70,272	62,412
Pineapples	73,125	66,608	78,805	84,062	71,468
Mangoes	6,441	8,016	7,234	9,238	9,872
Papayas	605	757	810	805	840
Limes	2,740	2,871	3,152	3,418	3,343

Source: COLEACP Statistics from NIMEXE

Table 7. Current Constraints in Producing, Shipping, Financing, and Marketing Fruits and Vegetables in World Markets.

	Serious constraint	Exists but can be dealt with	Modest to Negligible
	(1)	(2)	(3)
1. Technical knowledge in production		X	
2. Cold storage availability	X		
3. Feeder road conditions		X	
4. Air shipping			
5. Sea shipping	X		
6. Finance		X	
7. Reliable market network info & contacts in Europe		X	
8. Local labor availability			X
9. Skilled labor - overseer, etc.		X	
10. Local research and extension activity	X		
11. Govt. land and resource policies			X
12. Foreign exchange and trade policies			X
13. Macro economic balance			X
14. Government reputation			X

Source: OSU survey, February - April 1994

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